REMARKS

By the present amendment, claims 5, 10-11, 13, 15, 30 and 33-34 have been amended.

Claims 5, 10 and 34 have been amended to recite that no polarizer is disposed between the second substrate and the white diffusing film. Support for the amendment to these claims is found in the original application, in particular on page 17, lines 19-20 and in the drawings. Further, the claims have been amended to correct minor formal defects.

Claims 5-7, 10-15, 17, 20-21, 24, 26, 28-34, 36, 38-40, 42-44 and 46-54 are pending in the present application. The claims are directed to a liquid crystal display device.

As a preliminary, in paragraph 9 of the Office Action, it is indicated that claims 32-33, 44 and 46-47 remain rejected under 35 U.S.C. 112, second paragraph.

It is submitted that this indication is erroneous, as paragraph 1 of the Office Action confirms that such rejection has been withdrawn. Thus, claims 32-33 should be considered immediately allowable, and claims 44 and 46-47 should be considered immediately allowable except for their dependency on rejected base claims.

Next, in this Office Action, the following prior art rejections are made:

- claims 5, 10 and 14 are rejected under 35 U.S.C. 102(e) as anticipated by US 6,124,905 to Iijima (Iijima);
- claims 6, 12, 17, 20-22, 34, 36, 38, 39 and 48-54 are rejected under 35 U.S.C. 103(a) as obvious over Iijima;

- claims 7 and 11 are rejected under 35 U.S.C. 103(a) as obvious over Iijima in view of JP 10-239683 (Hiroshi);
- claims 21, 22, 24, 26, 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as obvious over Iijima in view of JP 08-146207 (Hirozo);
- claims 40, 42 and 43 are rejected under 35 U.S.C. 103(a) as obvious over Iijima in view of US 6,175,399 (Mitsui); and
- claims 13, 15 and 30 are rejected under 35 U.S.C. 103(a) over Applicant's admitted prior art (APA) in view of Iijima.

In summary, it is alleged in this Office Action that Figure 7 of Iijima shows that "the diffusing plate, 30, is on the visible side of the reflective polarizer, 60," so that a person of the art would use the combinations "diffusing layer 30 - reflective polarizer 60" or "reflective polarizer 40 - diffusing layer 30 - reflective polarizer 60" of Iijima at the rear side of a conventional liquid crystal cell.

Reconsideration and withdrawal of the rejections is respectfully requested.

Claims 5, 10 and 34

Regarding claims 5, 10 and 34, it is submitted that Iijima fails to teach or suggest a display in which no polarizer is disposed between a white diffusing film and a second substrate at the rear side of a liquid crystal layer, as recited in present claims 5 and 10.

Specifically, in Figure 7 of Iijima, the liquid crystal cell has on its back side, in order, a reflective polarizer 40, a diffusing film 30, and a reflective polarizer 60. However, Iijima does not suggest removing the polarizer between the rear substrate and the diffusing film. As a result, there would have been no motivation to provide no polarizer between the rear substrate and the diffusing film. Therefore, present claims 5, 10 and 34 are not anticipated by, and not obvious over, Iijima.

Claim 11

Regarding claim 11, it is submitted that any combination of Iijima and Hiroshi fails to teach or suggest the constitution in the order as recited in present claim 11:

a polarizing film without reflection characteristics;

a white diffusing film;

a first substrate;

a liquid crystal layer;

a second substrate; and

a reflection-type polarizing film.

Specifically, Hiroshi discloses a construction with a front polarizing plate and a diffusing plate at the front of the liquid crystal cell, and a polarizing plate and a reflection plate at the rear of the liquid crystal cell. As is evident from the disposition of the rear reflection plate, the polarizing plate used in Hiroshi is an absorption-type polarizing plate which comprises a transmission axis and an absorption axis. Thus, one half of the light incident on the absorption-

type polarizing film is absorbed there, the remaining half is reflected by the reflection plate, and a portion of light passing the absorption-type polarizing film again is further absorbed.

In contrast, Iijima discloses a construction with a diffusing plate between two reflection-type polarizers at the rear of a liquid crystal cell, not at the front as in Hiroshi. As a result, there would have been no motivation to combine Hiroshi with Iijima since the diffusing plates are located in opposite locations in these references, and Hiroshi uses absorptive polarizers while Iijima uses reflective polarizers. Even if, arguendo, a person of the art attempted to combine Hiroshi and Iijima, that person would remove the front diffusing plate of Hiroshi when adding the combination of rear reflective polarizers and diffusing plate of Iijima.

In contrast, the present inventors have found that, in the construction of present claim 11, the reflection-type polarizing film can reflect one half of the light incident on it, and the reflected light can be utilized in a reflection display, so as to obtain a bright reflection display. This construction and its advantages are not taught or suggested in any of the cited references, and therefore, present claim 11 is not obvious over any combination of Hiroshi and Iijima.

Claim 13

Regarding claim 13, it is submitted that Iijima fails to teach or suggest the construction in the order as recited in present claim 13:

a polarizing film without reflection characteristics;

a first substrate;

a liquid crystal layer;

a second substrate;

a polarizing film without reflection characteristics;

a white diffusing film; and

a reflection-type polarizing film.

In particular, a conventional liquid crystal cell has a non-reflection type polarizer at the rear. In contrast, the structure of Iijima has a reflection-type polarizing film 40, a diffusing film 30 and another reflection-type polarizer 60 at the rear side of the liquid crystal cell. As a result, a person of the art would not find any motivation to add the diffusing film 30 and the reflection-type polarizer 60 of Iijima to a conventional liquid crystal cell. Even if, arguendo, a person of ordinary skill in the art was motivated to combine APA and Iijima, that person would replace the conventional rear non-reflection type polarizer with the whole structure of Iijima including the reflection-type polarizing film 40, the diffusing film 30 and the other reflection-type polarizer 60. As a result, any combination of APA and Iijima would result in a reflection-type polarizer, not an absorption-type polarizer, being disposed between the rear substrate and the diffusing film.

In contrast, the present inventors have found that an advantage of the construction as recited in present claim 13, with a non-reflection type polarizer, a diffusing film and a reflection-type polarizer are disposed at the rear of a liquid crystal cell, is that an absorption axis of the absorption-type polarizing film can be used to enable a deeper (darker) black display than in Iijima (in which a reflection-type polarizing film, a diffusing film, and another reflection-type polarizing

film are disposed in this order). The construction of claim 13 and its advantages are not taught in Iijima, and therefore, present claim 13 is not obvious over any combination of APA and Iijima.

Claims 15 and 30

In the construction as recited in present claim 15, a reflector made up of a holographic film is disposed instead of the reflection-type polarizing film in the construction according to claim 13.

In the construction of present claim 30, a transflective reflector having a substantially equal transmittance for light components at respective wavelengths is disposed instead of the reflection-type polarizing film in the construction according to claim 13.

As a result, the differences with respect to the structures disclosed in APA and Iijima and corresponding advantages are similar to those described above in reference to claim 13. Therefore, claims 15 and 30 are not obvious over any combination of APA and Iijima.

In view of the above, it is submitted that the prior art rejections should be withdrawn.

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 01-2340.

Respectfully submitted,

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Encl.: Petition for One-Month Extension of Time